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ABSTRACT

The general purpose of the occupational analysis is to provide workable, basic information dealing with the many and varied duties performed in the baking occupation. Such tasks as choosing ingredients and the actual baking process are logical primary concerns, but also explored are the safety and sanitation factors and management problems in a bakery operation. The document opens with a brief introduction followed by a job description. The bulk of the document is presented in table form. Nine duties are broken down into a number of tasks and for each task a two-page table is presented, showing on the first page: tools, equipment, materials, objects acted upon; performance knowledge (related also to decisions, cues and errors); safety--hazard; and on the second page: science; math--number systems; and communications (performance modes, examples, and skills and concepts). The duties include: sanitizing and cleaning premises and equipment; preparing and cooking various products; selecting types of ingredients; maintaining inventory and stock control; developing merchandising and salesmanship; managing operation; developing accounting and bookkeeping skills; operating store; and observing safety rules and regulations. Appended are a list of safety rules and hazards, and a glossary of baking terms.
(BP)

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Instructional Materials Laboratory
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AN ANALYSIS OF THE BAKING OCCUPATION

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FOREWORD

The occupational analysis project was conducted by The Instructional Materials Laboratory, Trade and Industrial Education, The Ohio State University in conjunction with the State Department of Education, Division of Vocational Education pursuant to a grant from the U.S. Office of Education.

The Occupational Analysis project was proposed and conducted to train vocational educators in the techniques of making a comprehensive occupational analysis. Instructors were selected from Agriculture, Business, Distributive, Home Economics, and Trade and Industrial Education to gain experience in developing analysis documents for sixty-one different occupations. Representatives from Business, Industry, Medicine, and Education were involved with the vocational instructors in conducting the analysis process.

The project was conducted in three phases. Phase one involved the planning and development of the project strategies. The analysis process was based on sound principles of learning and behavior. Phase two was the identification, selection and orientation of all participants. The training and workshop sessions constituted the third phase. Two-week workshops were held during which teams of vocational instructors conducted an analysis of the occupations in which they had employment experience. The instructors were assisted by both occupational consultants and subject matter specialists.

The project resulted in producing one hundred two trained vocational instructors capable of conducting and assisting in a comprehensive analysis of various occupations. Occupational analysis data were generated for sixty-one occupations. The analysis included a statement of the various tasks performed in each occupation. For each task the following items were identified: tools and equipment; procedural knowledge; safety knowledge; concepts and skills of mathematics, science and communication needed for successful performance in the occupation. The analysis data provided a basis for generating instructional materials, course outlines, student performance objectives, criterion measures, as well as identifying specific supporting skills and knowledge in the academic subject areas.

PREFACE

We have tried to cover the entire range of skills needed in baking and in managing or supervising a bakery operation. Tasks are not broken down into their simplest components, nor were all duties covered in detail; but rather those things considered most necessary to the job were stressed.

Choosing ingredients and the actual baking processes are logical primary concerns. However, a conception of safety and sanitation is also needed in a bakery operation. Knowing the problems of management (bowl costs, scheduling,) should make a more efficient employee even if he/she never aspires to a supervisory position.

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JOB DESCRIPTION

A baker prepares and produces various bakery products. He/she keeps premises and all equipment clean and sanitary. He/she maintains and uses commercial bakery equipment. The baker maintains inventory and stock control, while keeping finished products in proper storage facilities. He/she practices cost accountability and overall management techniques, is involved with merchandising and salesmanship. He/she also uses bookkeeping skills in maintaining accounts and records.

Duty A

Sanitizing and Cleaning Premises and Equipment

- 1 Clean premises (ceilings, walls, floor and windows)
- 2 Maintain and clean equipment
- 3 Properly sanitize pots, pans and utensils
- 4 Dispose of trash and garbage properly
- 5 Control rodents and insects
- 6 Handle and store supplies and equipment

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TASK STATEMENT CLEAN PREMISES (CEILING, WALLS, WINDOWS FLOOR)

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY HAZARD
Ladder Pail Detergents Sponges Rags Squeegee Platform Degreaser Steam Mop Wringer H ₂ O Scrubber Broom Scraper Steel wool Scaffolds Steam clean Walls Ceiling Windows Floor	Gather equipment Set up safely Clean surface Floor—sweep free of debris, scrap, then mop and dry Move mobile equipment out of area to be cleaned	Safety: Improper use of ladders and scaffolds Solutions abrasive to skin, eyes, etc. Hazards: Hot water Mop wringer (hands and fingers) Live steam Electrical outlets Equipment around cleaning area not turned off Scalding Burns Electric shock Lacerations Sores Blindness Contusions Breaks
<u>DECISIONS</u> Decide when to clean Select tools and materials Decide how to safely set up ladders and scaffolds Decide when equipment should be moved Decide when steam cleaning is necessary	<u>CUES</u> Amount of grease, dirt and dust build-up Foreign substance on floor	<u>ERRORS</u> Unsafe climbing or reaching Wrong material and/or tools Wrong agent on type of debris Unclean tools

TASK STATEMENT CLEAN PREMISES (CEILING, WALLS, WINDOWS, FLOOR)

TASK STATEMENT)		CLEAN PREMISES (CEILING, WALLS, WINDOWS, FLOOR)	
SCIENCE		MATH – NUMBER SYSTEMS	
Bacteriology (microorganisms) Causes of food spoilage and disease How bacteria grows and where; what it needs to thrive Sanitization vs. cleaning Effective methods of killing or retardation		Positive rationals Use of numbers (without calculation) Counting Measurement: non-geometric Liquid and dry Temperature	
COMMUNICATIONS			
PERFORMANCE MODES		EXAMPLES	SKILLS/CONCEPTS
Listening		Instructions	Verbal instructions Comprehension Terminology
Reading		Instructions	Comprehension Terminology
Viewing		Seeing if area or object is clean	Detail Inference
		3	

(TASK STATEMENT) MAINTAIN AND CLEAN EQUIPMENT

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TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY - HAZARD
Standard tool kit Steel wool Scrappers Rubber gloves Rubber aprons Sponge Bucket Rags Oil Grease Detergents Degreaser Hot water Air compressor and gun Ovens Stainless steel work areas and surfaces Refrigerator-freezer Storage Mixers Slicers All commercial equipment	Gather materials Observe safety precautions Add appropriate materials in proper solution Use scraper and degreaser on oven and carbon build-ups and oil and grease moving parts and motors as directed by manufacturer Defrost refrigerator and freezer	Follow manufacturer's recommendations Unplug electrical equipment Turn off and cool equipment Solutions abrasive to skin, eyes; also poisonous Hot water Bare wires Moving equipment improperly Spills and grease on floor Potential inflammable materials (gas & electric)
<u>DECISIONS</u> Determine when to perform maintenance Determine when to clean oven Determine type of material and tool and solutions to be used Identify type of dirt to be cleaned Determine types of oil and grease to be used Determine when to use air pressure to clean	<u>CUES</u> Carbon build-up Dirt and grease build-up Unusual noises Appearance of finished product Mobility of moving parts Ease of reaching dirt Build-up of frost and ice	<u>ERRORS</u> Allowing build-up of dirt, grime and carbon Disregarding maintenance directions of manufacturer Disregarding manufacturer's recommended use of materials Wrong use of cleaning equipment

(TASK STATEMENT) MAINTAIN AND CLEAN EQUIPMENT

SCIENCE	MATH — NUMBER SYSTEMS
<p>Bacteriology (microorganisms) Causes of food spoilage and disease How bacteria grows and where; what it needs to thrive Sanitization vs. cleaning Effective methods of killing or retardation</p>	<p>Positive rationals Use of numbers (without caicalation) Counting Measurement: non-geometric Temperature Liquid and dry</p>
COMMUNICATIONS	
<p><u>PERFORMANCE MODES</u></p> <p>Listening Reading Viewing</p>	<p><u>EXAMPLES</u></p> <p>Instructions Instructions Seeing if area or object is clean</p> <p>5</p>
<p><u>SKILLS/CONCEPTS</u></p> <p>Verbal instructions Comprehension Terminology Comprehension Terminology Detail and inference</p>	

(TASK STATEMENT) CLEAN AND SANITIZE POTS, PANS AND UTENSILS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY HAZARD
Dishwasher Pot sink Pot washer Detergent Water Steel wool Scouring pads Rinse agent Towels Ladles Spoons Spatulas Cutters Pots Pans Sheets Screens Knives Forks Peels Sticks	Load utensils in dishwasher according to manufacturer's instructions Air dry Soak pots and pans and wash (pot sink) Scour Rinse Sanitize	Hot water Hot pans Sharp instruments Abrasive materials Improper heavy lifting techniques Moisture on floor in cleaning area
<u>DECISIONS</u> Determine type of machine insert and load limit Choose method used to clean	<u>CUES</u> Type of dirt build-up	<u>ERRORS</u> Overload Toweling Waterspots Too heavy build-up of pots, pans and utensils

TASK STATEMENT) CLEAN AND SANITIZE POTS, PANS AND UTENSILS

TASK STATEMENT) CLEAN AND SANITIZE POTS, PANS AND UTENSILS		
SCIENCE	MATH – NUMBER SYSTEMS	
Bacteriology (microorganisms) Causes of food spoilage and disease How bacteria grows and where; what it needs to thrive Sanitization vs. cleaning Effective methods of killing or retardation Temperature and time needed for sterilization	Positive rationals Use of numbers (without calculation) Counting Measurement: non-geometric Temperature Liquid and dry	
COMMUNICATIONS		
PERFORMANCE MODES	EXAMPLES	SKILLS/CONCEPTS
Listening Reading Viewing	Instructions Instructions Seeing if are or object is clean <	

(TASK STATEMENT) DISPOSE OF TRASH AND GARBAGE PROPERLY

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Trash can and cover Garbage disposal Outside dumpster Trash bags Compactor Dollies Cart</p>	<p>Choose type of container Dispose all cartons - cardboard - cans Dispose food waste in covered containers Move to covered area outside away from building Keep area around outside collection area clean</p>	<p>Broken glass Caustic material Slippage Improper lifting of heavy loads Sharp objects Fire Dough pick up of odor Contamination</p>
<p><u>DECISIONS</u></p> <p>Identify size and type Determine health or safety hazard Discriminate between what can/cannot be handled by garbage disposal</p>	<p><u>CUES</u></p> <p>Wet or dry Odor</p>	<p><u>ERRORS</u></p> <p>Improper storage Improper use of disposal Uncovered containers Spillage when dumping</p>

(TASK STATEMENT) DISPOSE OF TRASH AND GARBAGE PROPERLY

(TASK STATEMENT) DISPOSE OF TRASH AND GARBAGE PROPERLY		MATH -- NUMBER SYSTEMS	
SCIENCE		Positive rationals Use of numbers (without calculation) Counting Fundamental Operations (calculation) Addition and subtraction algorithms Measurement: non-geometric Dry	
Bacteriology (microorganisms) Causes of food spoilage and disease How bacteria grows and where; what it needs to thrive Sanitization vs. cleaning Effective methods of killing or retardation Bacteria growth			
COMMUNICATIONS			
PERFORMANCE MODES	EXAMPLES	SKILLS/CONCEPTS	
Listening	Instructions	Verbal instructions Comprehension Terminology	
Reading	Instructions	Comprehension Terminology	
Viewing	Seeing if area or object is clean	Detail and inference	
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(TASK STATEMENT) CONTROL RODENTS AND INSECTS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
Screens, door and window Insecticides Insecticide dispenser	Screen doors and windows Plug holes in walls - floor - ceilings Practice good sanitation Light all areas well Place dry storage off of floor Store open flour and sugar properly Dispense appropriate insecticides	Improper use of insecticides Using unsafe insecticides
<p><u>DECISIONS</u></p> <p>Determine form and type of insecticide Secure professional help services Determine steps necessary to insure control of rodents and insects</p>	<p><u>CUES</u></p> <p>Visual evidence of presence Screening in need of repair Floor - ceiling - wall in need of repair</p>	<p><u>ERRORS</u></p> <p>Uncovered food storage Improper dry storage Poorly lit area Lack of ventilation Use of dangerous insecticides Leave door open</p>

(TASK STATEMENT) CONTROL RODENTS AND INSECTS

SCIENCE	MATH — NUMBER SYSTEMS
<p>Contamination caused by rodents and insects Disease carriers Bacteriology (microorganisms) Causes of food spoilage and disease How bacteria grows and where; what it needs to thrive Sanitization vs. cleaning Effective methods of killing or retardation</p>	
COMMUNICATIONS	
<u>PERFORMANCE MODES</u>	<u>EXAMPLES</u>
<p>Listening</p> <p>Reading</p> <p>Viewing</p>	<p><u>SKILLS/CONCEPTS</u></p> <p>Verbal instructions Comprehension Terminology</p> <p>Comprehension Terminology</p> <p>Detail and inference</p>

(TASK STATEMENT) HANDLE AND STORE SUPPLIES AND EQUIPMENT

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY - HAZARD
Wash basin Towel Soap Refrigerator Stock area Pallets Shelves Covered containers Freezer Tongs Handy wraps and tissues	Wash hand before handling food and ingredients Use tongs or handywrap for handling finished products Adjust temperature Adjust lighting Store - off floor Rotate stock - first in - first out Place all opened packages of flour, sugar, etc. in covered containers Heavy objects at lower levels	Contamination Rapid change in temperature Improper lifting
<u>DECISIONS</u> Determine what type of storage Determine rotation system Determine time particular product can be held Determine best height for storage	<u>CUES</u> Color, texture, smell of food Speed of freezing Thermometer on inside of door	<u>ERRORS</u> Refreezing thawed foods Improper freezing Uncovered foods in refrigerator Improper ventilation (refrigerator - freezer) Improper rotation of stock Too long to freeze Breakdown of equipment (compressors)

(TASK STATEMENT) HANDLE AND STORE SUPPLIES AND EQUIPMENT

(TASK STATEMENT) HANDLE AND STORE SUPPLIES AND EQUIPMENT		MATH - NUMBER SYSTEMS	
SCIENCE		Positive rationals Use of numbers (without calculation) Counting, coordinate system, ordering, indexing Addition and subtraction algorithms Reduction of fractions Measurement: non-geometric Temperature Weight Dry Liquid	
Effects of freezing on foods Dehydration Flash vs. slower rate Effects of ventilation Temperature control - moisture control Effect of temperature on bacteria growth Physics of heavy lifting Bacteriology (microorganisms) Causes of food spoilage and disease How bacteria grows and where; what it needs to thrive Sanitization versus cleaning Effective methods of killing or retardation			
COMMUNICATIONS			
<u>PERFORMANCE MODES</u>		<u>EXAMPLES</u>	<u>SKILLS/CONCEPTS</u>
Listening		Instructions	Verbal instructions Comprehension Terminology
Reading		Instructions	Comprehension Terminology
Viewing		Seeing if area or object is clean	Detail and inference
		13	

Duty B

Preparing and Cooking Various Products

- 1 Prepare and bake yeast doughs
- 2 Prepare cookies, pie crust, french pastry
- 3 Prepare cakes and quick breads
- 4 Decorate cakes
- 5 Prepare icings and frostings
- 6 Prepare pudding and fillings

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(TASK STATEMENT) PREPARE AND BAKE YEAST DOUGHS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY — HAZARD
Scales and calibrated container Utensils—rolling pins, ladles, spoons, spatulas Mixers Oven Work bench Baking pans and racks Baking sheets or bun pans Screens Cutters Dough divider and powder Proof box Pretzel twister Dough trough Deep fat frier Pastry pump (doughnuts) Bread, pretzels (bread), doughnuts, sweet dough, Danish Formulae	Gather and weight ingredients Mix and prepare dough Ferment dough Sheet and scale dough, grease or use parchment paper Pan dough Proof dough Preheat oven Bake Cool	See appendix
<u>DECISIONS</u> Determine when dough is properly fermented Determine when dough is properly proofed Determine when dough is baked Determine whether to grease pans or use parchment paper	<u>CUES</u> Texture of dough Volume of dough Volume of dough Development of dough Color of baked product Costs	<u>ERRORS</u> Dough not rising Insufficient volume of dough Crust wrong color Using parchment paper only once

(TASK STATEMENT) PREPARE AND BAKE YEAST DOUGHS

SCIENCE	MATH - NUMBER SYSTEMS
<p>Heat loss - transfer from one object to another</p> <p>Effects of fermentation on volume production of gas increases volume</p> <p>Effects of leavening agent: expansion of gases; gases under pressure; trapped in dough</p> <p>Composition of flour (gluten): amount of gluten controls amount of moisture absorption</p> <p>Effects of heating and cooling on state of matter</p> <p>Different properties of each type of shortening: melting point; smoking point; room temperature form; chemical formula</p>	<p>Positive rationals</p> <p>Counting, coordinating system, ordering, indexing, coding</p> <p>Addition, subtraction, multiplication and division algorithms</p> <p>Reduction of fractions</p> <p>Finding a percent of a number and what percent one number is of another</p> <p>Ratio and proportion</p> <p>Measurement: non-geometric</p> <p>Temperature [Equipment and product]</p> <p>Weight [Ingredients]</p> <p>Liquid [Ingredients]</p> <p>Dry [Ingredients]</p> <p>Speed [Mixer]</p> <p>Recognize basic geometric figures</p>
COMMUNICATIONS	
PERFORMANCE MODES	EXAMPLES
<p>Reading</p> <p>Listening</p> <p>Viewing</p> <p>Touching</p> <p>Smelling</p>	<p><u>SKILLS/CONCEPTS</u></p> <p>Comprehension, instructions, terminology</p> <p>Terminology, word definition, concentration, comprehension</p> <p>Detail and inference, color discrimination</p> <p>Consistency, texture, discrimination</p> <p>Properly baked, proper presentation</p>

(TASK STATEMENT) PREPARE COOKIES, PIE CRUST, FRENCH PASTRY

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY - HAZARD
<p>Scales, calibrated containers, utensils, mixers Ovens, work bench, baking pots and pans, racks Cookie dropper, cookie machine, pastry bag and tube Rolling pin, sheeter, stove, steam kettle, pie shell Machine, docker, formulae</p>	<p>Gather and weigh ingredients Mix and prepared dough Scale and portion dough Process Pan Preheat oven Bake Cool</p>	<p>See appendix</p>
<p><u>DECISIONS</u></p> <p>Determine proper formula Determine when dough is properly mixed and developed Determine portion control - general shape Determine when properly baked</p>	<p><u>CUES</u></p> <p>Texture Development, Texture, Consistency, Volume Symmetry Color</p>	<p><u>ERRORS</u></p> <p>Slack dough Stiff dough, Poor texture, Poor volume Poor symmetry Lack of color Pies - overmixed dough - percent of shortening</p>

(TASK STATEMENT) PREPARE COOKIES, PIE CRUST, FRENCH PASTRY

PREPARE COOKIES, PIE CRUST, FRENCH PASTRY		
SCIENCE	MATH – NUMBER SYSTEMS	
Heat loss - transfer from one object to another Effects of fermentation on volume production of gas increases volume Effects of leavening agents: expansion of gases; gases under pressure; trapped in dough. Composition of flour (gluten): amount of gluten controls amount of moisture absorption Effects of heating and cooling on state of matter Different properties of each type of shortening: melting point; smoking point; room temperature form; chemical formula	Positive rationals Counting, coordinating system, ordering, indexing, coding Addition, subtraction, multiplication and division algorithms Reduction of fractions Finding a percent of a number and what percent one number is of another Ratio and proportion Measurement: non-geometric Temperature [Equipment and product] Weight [Ingredients] Liquid [Ingredients] Dry [Ingredients] Speed [Mixer] Recognize basic geometric figures	
COMMUNICATIONS		
PERFORMANCE MODES	EXAMPLES	SKILLS/CONCEPTS
Reading Listening Viewing Touching Smelling	Formula and instructions Instruction Dough raw and baked Elasticity Finished products 19	Comprehension, instructions, terminology Terminology, word definition, concentration, comprehension Detail and inference, color discrimination Consistency, texture, discrimination Properly baked, proper proportion

(TASK STATEMENT) PREPARE CAKES AND QUICK BREADS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Scales, mixers, utensils, droppers, divider, muffin pans, loaf pans, cake pans, sheeter, rolling pin, ovens, racks, sheet pans, dropping machine, icing pots, bench, fryer, hand dropper, freezer, retarder, pastry bag and tube, and formulae</p>	<p>Gather and weight ingredients Mix and prepare batter Scale or portion batter Place parchment paper on bottom of cake pan do not grease sides Preheat oven Bake</p>	<p>See appendix</p>
<p>DECISIONS</p> <p>Determine proper formula Determine when properly baked Determine when dough is properly mixed</p> <p>Determine size of portions and containers to be used</p>	<p>CUES</p> <p>Volume of cake Shrunken circumference or sloped sides Volume of cake Consistency of batter Specific gravity of batter Volume Smoothness</p>	<p>ERRORS</p> <p>Volume too little or too much Greasing sides of cake pan too heavily Cake fallen Too stiff Too slack Improper mixing Too much heat or too little heat Too much or too little leavening Wrong color of bake Formula unbalanced</p>

TASK STATEMENT) PREPARE CAKES AND QUICK BREADS

PREPARE CAKES AND QUICK BREADS		
SCIENCE	MATH – NUMBER SYSTEMS	
Heat loss - transfer from one object to another Effects of fermentation on volume production of gas increases volume Effects of leavening agents: expansion of gases; gases under pressure; trapped in dough Composition of flour (gluten): amount of gluten controls amount of moisture absorption Effects of heating and cooling on state of matter Different properties of each type of shortening: melting point; smoking point; room temperature form; chemical formula	Positive rationals Counting, coordinating system, ordering, indexing, coding Addition, subtraction, multiplication and division algorithms Reduction of fractions Finding a percent of a number and what percent one number is of another Ratio and proportion Measurement: non-geometric Temperature [Equipment and product] Weight [Ingredients] Liquid [Ingredients] Dry [Ingredients] Speed [Mixer] Recognize basic geometric figures	
COMMUNICATIONS		
PERFORMANCE MODES	EXAMPLES	SKILLS/CONCEPTS
Reading Listening Viewing Touching Smelling	Formula and instructions Instruction Dough raw and baked Elasticity Finished products 21	Comprehension, instructions, terminology Terminology, word definition, concentration comprehension Detail and inference, color discrimination Consistency, texture, discrimination Properly baked, proper proportion

(TASK STATEMENT) DECORATE CAKES

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY — HAZARD
<p>Sheet pans Mixing bowls Mixer Spatula Icing knife Decorating tubes and bags Decorating nails Turn table Boards, cake and circles Doilies Parchment paper Formulae</p>	<p>Gather icing and tools Place in tubes and bags Prepare cake to be iced and place on board Color icing to desired colors Enrobe cakes Decorate cake Box cake</p>	<p>See appendix</p>
<p><u>DECISIONS</u></p> <p>Determine proper icing Determine proper pastry bags and tubes Determine color and flavor Determine decorating style Determine time needed</p>	<p><u>CUES</u></p> <p>Occasion - customer needs Flavor capability Size of packaging Time taken</p>	<p><u>ERRORS</u></p> <p>Covering icing too thin or too thick Colors unesthetic appearance Time limit over reached</p>

(TASK STATEMENT) DECORATE CAKES

(TASK STATEMENT) DECORATE CAKES		MATH – NUMBER SYSTEMS	
SCIENCE		Positive rationals Counting, coordinating system, ordering, indexing, coding Addition, subtraction, multiplication and division algorithms Reduction of fractions Finding a percent of a number and what percent one number is of another Ratio and proportion Measurement: non-geometric Temperature [Equipment and product] Weight [Ingredients] Liquid [Ingredients] Dry [Ingredients] Speed [Mixer] Recognize basic geometric figures Symmetry	
COMMUNICATIONS			
<u>PERFORMANCE MODES</u>		<u>EXAMPLES</u>	<u>SKILLS/CONCEPTS</u>
Reading Listening Viewing Touching Smelling		Formula and instructions Instruction Dough, raw and baked Elasticity Finished products 23	Comprehension, instructions, terminology Terminology, word definition, concentration comprehension Detail and inference, color discrimination Consistency, texture, discrimination Properly baked, proper proportion

(TASK STATEMENT) PREPARE ICINGS AND FROSTINGS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Scales and calibrated containers Utensils - spoons - ladles - spatula Mixers Work bench Icing pots Steam kettle or candy stove Formulae</p>	<p>Gather and weigh ingredients Mix and prepare ingredients according to instructions Enrobe cakes and baked foods as desired</p>	<p>See appendix</p>
<p><u>DECISIONS</u></p> <p>Determine proper icing to use on what baked foods Determine proper consistency texture Determine best formula for usage Determine best shortening</p>	<p><u>CUES</u></p> <p>Texture, flavor, consistency of product Color of product</p>	<p><u>ERRORS</u></p> <p>Curdling Too thin Too thick Grainy Not properly emulsified Not properly homogenized Lumpy</p>

(TASK STATEMENT) PREPARE ICINGS AND FROSTINGS

(TASK STATEMENT) PREPARE ICINGS AND FROSTINGS		SCIENCE		MATH – NUMBER SYSTEMS	
Heat loss-- transfer from one object to another Effects of fermentation on volume production of gas increases volume Effects of leavening agents: expansion of gases; gases under pressure; trapped in dough Composition of flour (gluten): amount of gluten controls amount of moisture absorption Effects of heating and cooling on state of matter Different properties of each type of shortening: melting point, smoking point; room temperature form; chemical formula		Positive rationals Counting, coordinating system, ordering, indexing, coding Addition, subtraction, multiplication and division algorithms Reduction of fractions Finding a percent of a number and what percent one number is of another Ratio and proportion Measurement: non-geometric Temperature [Equipment and product] Weight [Ingredients] Liquid [Ingredients] Dry [Ingredients] Speed [Mixer] Recognize basic geometric figures			
COMMUNICATIONS					
<u>PERFORMANCE MODES</u>		<u>EXAMPLES</u>		<u>SKILLS/CONCEPTS</u>	
Reading Listening Viewing Touching Smelling		Formula and instructions Instructions Dough raw and baked Elasticity Finished products 25		Comprehension, instructions, terminology Terminology, word definition, concentration comprehension Detail and inference, color discrimination Consistency, texture, discrimination Properly baked, proper proportion	
				24	

(TASK STATEMENT) PREPARE PUDDING AND FILLINGS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY - HAZARD
<p>Scales and calibrated containers Ladles - spoons - spatula - mixers - work bench Pots - pans - racks - baking sheets - pastry pumps Steam kettle - candy stove - refrigerators - freezer Sink - colander - sieve - ingredient scoop - for- mulae</p>	<p>Gather ingredients Mix and/or cook ingredients Weigh and/or measure ingredients Cool Dispense</p>	<p>See appendix</p>
<p><u>DECISIONS</u></p> <p>Determine formula Determine proper consistency Determine use Determine storage</p>	<p><u>CUES</u></p> <p>Consistency Smoothness Color Flavor Usage</p>	<p><u>ERRORS</u></p> <p>Too thick Too thin Separation Not properly emulsified Not proper homogenized Color wrong</p>

TASK STATEMENT) PREPARE PUDDING AND FILLINGS

SCIENCE	MATH — NUMBER SYSTEMS
<p>Effects of thickening agents Effects of heat on consistency Heat loss - transfer from one object to another Effects of fermentation on volume production of gas increases volume Effects of leavening agents: expansion of gases; gases under pressure; trapped in dough Composition of flour (gluten): amount of gluten controls amount of moisture absorption Effects of eating and cooling on state of matter Different properties of each type of shortening: melting point; smoking point; room temperature form; chemical formula</p>	<p>Positive rationals Counting, coordinating system, ordering, indexing, coding Addition, subtraction, multiplication and division algorithms Reduction of fractions Finding a percent of a number and what percent one number is of another Ratio and proportion Measurement: non-geometric Temperature [Equipment and product] Weight [Ingredients] Liquid [Ingredients] Dry [Ingredients] Speed [Mixer] Recognize basic geometric figures</p>
COMMUNICATIONS	
PERFORMANCE MODES	<div>EXAMPLES</div> <div>SKILLS/CONCEPTS</div>
<p>Reading Listening Viewing Touching Smelling</p>	<p>Formula and instructions Instruction Dough raw and baked Elasticity Finished products</p> <p>Comprehension, instructions, terminology Terminology, word definition, concentration comprehension Detail and inference, color discrimination Consistency, texture, discrimination Properly baked, proper proportion</p> <p>27</p> <p>36</p>

Duty C

Selecting Types of Ingredients

- 1 Select various flour for mixes
- 2 Select various types of shortening
- 3 Select types of leavening agents
- 4 Select various types of sweeteners

(TASK STATEMENT) SELECT VARIOUS FLOUR FOR MIXES

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TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY HAZARD
<p>Flours Durum Strong flour Hard winter Hard spring Soft flour Whole wheat Bran Whole kernel Rye</p>	<p>Select Durum flour for macaroni products Select hard flour for bread, rolls, sweet yeast products Select soft flour for cakes, pastries, cookies, pie crust Select flour for whole or cracked wheat products</p>	<p>See appendix</p>
<p><u>DECISIONS</u></p> <p>Determine type of product being made</p>	<p><u>CUES</u></p> <p>Characteristic of flour</p>	<p><u>ERRORS</u></p> <p>Wrong flour Incorrect percentage of shortening</p>

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TASK STATEMENT) SELECT VARIOUS FLOUR FOR MIXES

SCIENCE	MATH — NUMBER SYSTEMS
<p>Water and glutenin and gliadin to form gluten - retention of gas produced by yeast Elasticity as produced in dough Effects of moisture absorption on doughs Structure of protein Effects of microorganisms</p>	<p>Positive rationals Counting, indexing Addition, subtraction, multiplication, division algorithms</p>
PERFORMANCE MODES	COMMUNICATIONS
<p>Speaking Reading Listening Writing Touching</p>	<p><u>EXAMPLES</u></p> <p>Verbal orders and instructions Written orders and instructions Verbal order Order and recipes Test dough</p> <p>31</p> <p><u>SKILLS/CONCEPTS</u></p> <p>Terminology, clarity, denotative/connotative words Comprehension, detail and inferences Spelling, comprehension, note taking, logic Elasticity, consistency, texture</p>

(TASK STATEMENT) SELECT VARIOUS TYPES OF SHORTENING

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
Frying medium (all purpose) shortening Emulsified hydrogenated (solid) shortening All purpose hydrogenated shortening Icing shortening (hydrogenated - emulsified) Puff Paste (water or milk churned shortening) Margarine and butter Oils (vegetable shortening)	Select shortening for deep fryer Select shortening for cakes - cookies - sweet dough Select shortening for fillings and pudding Select shortening for general baking Select shortening for puff pastry - napoleons - stroodles - turnovers Select shortening for danish - pie crust Select shortening for pizzas and Italian bread	See appendix
<u>DECISIONS</u> Decide what product is to be produced	<u>CUES</u> Characteristics of shortening	<u>ERRORS</u> Wrong shortening used

(TASK STATEMENT) SELECT VARIOUS TYPES OF SHORTENINGS

SCIENCE	MATH — NUMBER SYSTEMS
<p>Preparation and effects of hydrogenated shortening; emulsified shortening; liquified shortening Chemistry of poly-unsaturates Heating process: smoking process of shortenings Sources of animal or vegetable shortenings</p>	<p>Positive rationals Counting and indexing Addition, subtraction, multiplication and division algorithms Measurement: non-geometric Dry, weight</p>
COMMUNICATIONS	
<p><u>PERFORMANCE MODES</u></p> <p>Speaking Reading Listening Writing Touching</p>	<p><u>EXAMPLES</u></p> <p>Verbal orders and instructions Written orders and instructions Verbal order Order and recipes Test dough</p> <p><u>SKILLS/CONCEPTS</u></p> <p>Terminology, clarity, denotative/connotative words Comprehension, detail and inferences Spelling, comprehension, note taking, logic Elasticity, consistency, texture</p>

(TASK STATEMENT) SELECT TYPES OF LEAVENING AGENTS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Yeast compressed Chemical leaveners (carbonates) Bicarbonate of soda Baking soda Ammonium carbonate</p>	<p>Determine type of recipe to be used Select proper shortening Add shortening in amount required</p>	
<p><u>DECISION:</u> Decide type of product to be made</p>	<p><u>CUES</u> Characteristics of leavening agents</p>	<p><u>ERRORS</u> Wrong amount Poor quality product</p>

TASK STATEMENT) SELECT TYPES OF LEAVENING AGENTS

SCIENCE	MATH — NUMBER SYSTEMS
<p>Principles of fermentation Sugar reaction Self-reacting versus reaction to leavening agent Chemical reaction of leavening agents Evaporation of water</p>	<p>Positive rationals Counting indexing Addition, subtraction, multiplication and division algorithms Weight measurements</p>
COMMUNICATIONS	
<p><u>PERFORMANCE MODES</u></p> <p>Speaking Reading Listening Writing Touching</p>	<p><u>EXAMPLES</u></p> <p>Verbal orders and instructions Written orders and instructions Verbal order Order and recipes Test dough</p> <p>35</p> <p><u>SKILLS/CONCEPTS</u></p> <p>Terminology, clarity, denotative/connotative words Comprehension, detail and inferences Spelling, comprehension, note taking, logic Elasticity, consistency, texture</p>

(TASK STATEMENT) SELECT VARIOUS TYPES OF SWEETENERS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
Sugar Granulated Powdered Pulverized Brown sugar Honey Molasses Corn sugar	Select sweetener for cake baking, icing, frosting filling, flavoring	See appendix
<u>DECISIONS</u> Determine type of product to be made	<u>CUES</u> Recipes - characteristics of sweeteners	<u>ERRORS</u> Too sweet - poor consistency

TASK STATEMENT) SELECT VARIOUS TYPES OF SWEETENERS

SCIENCE	MATH — NUMBER SYSTEMS
<p>Difference between simple and complex sugars (invert) (Mono—versus—disaccharides) Process of dissolving sugar in liquids Solutions — suspension — colloids</p>	<p>Positive rationals Counting, indexing Addition, subtraction, multiplication and division algorithms Weight measurements</p>
COMMUNICATIONS	
<p><u>PERFORMANCE MODES</u></p> <p>Speaking Reading Listening Writing Touching</p>	<p><u>EXAMPLES</u></p> <p>Verbal orders and instructions Written orders and instructions Verbal order Order and recipes Test dough</p> <p>37</p> <p><u>SKILLS/CONCEPTS</u></p> <p>Terminology, clarity, denotative/connotative words Comprehension, detail and inferences Spelling, comprehension, note taking, logic Elasticity, consistency, texture</p>

Duty D

Maintaining Inventory and Stock Control

- 1 Order supplies
- 2 Receive, store and disburse supplies and products

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(TASK STATEMENT) ORDER SUPPLIES

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY HAZARD
<p>Inventory sheets Specification cards Want list Purveyor list</p>	<p>Keep a want list Keep a special inventory Meet specifications as set by management Order as needed so as to have sufficient inventory at all times</p>	
<p><u>DECISIONS</u></p> <p>Determine particular requirements Develop standards and specifications Determine amount of inventory</p>	<p><u>CUES</u></p> <p>Finances Storage area Rate of usage</p>	<p><u>ERRORS</u></p> <p>Insufficient records Lack of coordination between departments</p>

TASK STATEMENT) ORDER SUPPLIES

SCIENCE	MATH – NUMBER SYSTEMS	
Effects of specific density differences in same ingredient and in finished products	Positive rationals Counting, ordering, indexing, coding Addition, subtraction, multiplication and division algorithms Reduction of fractions Finding percent of a number Ratio and proportion Rounding off decimals and whole numbers	
COMMUNICATIONS		
<u>PERFORMANCE MODES</u>	<u>EXAMPLES</u>	<u>SKILLS/CONCEPTS</u>
Speaking Reading Writing Listening	Giving orders Brochures and lists of products Written order Taking verbal orders	Terminology, clarity, denotative/connotative, words Comprehension, information/report, description of product Terminology, specifications Terminology, specifications

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(TASK STATEMENT) RECEIVE, STORE AND DISBURSE SUPPLIES AND PRODUCTS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY
<p>Inventory list Copy of purchase orders Delivery receipt Scales</p>	<p>Weigh or count incoming merchandise Check against order sheets Record delivery Short merchandise so oldest stock is used first Store in proper environment and lock Fill orders Check order Obtain receipt Adjust inventory</p>	<p>Heavy weights Falling objects Slippery floors</p> <p>Potential back injury or rupture</p>
<p><u>DECISIONS</u></p> <p>Determine completeness of order received Determine type of storage Determine when to reorder so as not to run short Determine if all stock is accounted for</p>	<p><u>CUES</u></p> <p>Item count Damage item Improper item shipped Container contents High unanticipated food cost High unanticipated usage</p>	<p><u>ERRORS</u></p> <p>Damage material Improper stacking Insufficient coordination Poor inventory controls Poor records Lack of security system</p>

TASK STATEMENT) RECEIVE, STORE AND DISBURSE SUPPLIES AND PRODUCTS

SCIENCE	MATH — NUMBER SYSTEMS	
Effects of temperature, humidity and light on various fresh, frozen, dry and canned food products	Positive rationals Counting, ordering, indexing, and coding Addition, subtraction, multiplication and division algorithms Finding percent of a number Measurement: non-geometric Temperature Weight Liquid Dry	
COMMUNICATIONS		
PERFORMANCE MODES	EXAMPLES	SKILLS/CONCEPTS
Speaking Reading Writing Listening Viewing Touching Smelling	Orders and instructions Written orders and instructions Write orders Given oral orders Bills of lading, receipts, and invoices Grading condition of foods received Checking condition of goods received	Terminology, denotative/connotative words, comprehension Terminology, denotative/connotative words, comprehension Terminology, denotative/connotative words, comprehension Terminology, denotative/connotative words, comprehension Color discrimination, recognition of symbols Texture, consistency, temperature, discrimination Fresh, spoiled, stale

43

Duty E

Developing Merchandising and Salesmanship

1 Develop merchandising strategy

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(TASK STATEMENT) DEVELOP MERCHANDISING STRATEGY

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Paper Pencil Profit and loss statement</p>	<p>Survey market Population density, social-economic group, ethnic background, age of average patron Analyze products What makes it unique Quality, quantity, special decor, price, service Set-up merchandising program (be creative) Advertising Radio and television, direct mail, newspaper, satisfied customer, hand bills, Promotional Special occasion, holiday, seasonal, special prices, impulse buying, suggestive selling</p>	
<p><u>DECISIONS</u></p> <p>Determine customer wants and needs</p> <p>Determine a merchandising theme</p> <p>Determine most efficient ways to merchandise</p> <p>Determine most efficient way to advertise</p>	<p><u>CUES</u></p> <p>Social-economic group Ethnic background Age of average patron Past records The product Uniqueness Past records Current budget Similar operation Past records Current budget Similar operations</p>	<p><u>ERRORS</u></p> <p>Unable to satisfy customer</p> <p>Piecemeal merchandise</p> <p>Piecemeal merchandise Ineffectiveness Costs too much Ineffectiveness Costs too much</p>

TASK STATEMENT) DEVELOP MERCHANDISING STRATEGY

SCIENCE		MATH – NUMBER SYSTEMS
Why people buy (wants versus needs) Impulse buying Suggestive selling Creating a need Creating an image (projection) Appeal to vanity, social emulation, self indulgence, instant gratification Halo effect	Positive rationals Counting, coding Addition, subtraction, multiplication, division algorithms Finding a percent of a number Ratio and proportion Read maps Basic logic Deductive and inductive reasoning Test for validity Proof Indirect Determine probability of sample events Survey market and advertising Representative sampling from population Measurement of central tendency Techniques of statistical analysis and inferences	
COMMUNICATIONS		
PERFORMANCE MODES	EXAMPLES	SKILLS/CONCEPTS
Speaking Reading Writing Listening	Interpret market surveys Preparing advertising materials Interpreting verbal marketing information and customer needs and wants	Terminology, appropriate diction, implying, enunciation, clarity of expression, persuasion and sales technique, denotative/connotative words, logic, gestures, dress, facial and body features, poise, usage Comprehension, detail/inference, terminology, informational reports, recommendation reports, proposals Description, business letters, diction, clarity, reports, classification Discriminate facts from non-facts, Recognize opinions, Concentration, Logic, Definition

47

Duty F

Managing Operation

- 1 Plan overall operation
- 2 Organize procedures and processes
- 3 Direct operation

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(TASK STATEMENT) PLAN OVERALL OPERATION

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Profit and loss statement Advisors Similar operations Experience Operating statements Job analysis Pen Paper Stenographer</p>	<p>Determine layout and design and traffic pattern Determine equipment necessary Determine location Determine labor force Figure rate of return on investment Determine type of operation (style of service, products offered) Set up objectives</p>	
<p><u>DECISIONS</u></p> <p>Determine volume needed, and profit needed Determine how much area necessary for each operation Determine volume and variety of products Determine what makes a good location Determine how much capital investment Determine how large a building Determine need for service and product</p>	<p><u>CUES</u></p> <p>Past operations Similar operations Market conditions Population density -- age Population socio-economic Professional advice Traffic patterns Loan rates Uniqueness of operation Uniqueness of product Competition</p>	<p><u>ERRORS</u></p> <p>Overestimation of product Overestimation of service Underestimation of costs Cost of borrowing money Unexpected rises in costs Insufficient facts Insufficient planning Under-capitalization Undesirable location Investment too great for expected return Overestimate volume</p>

TASK STATEMENT) PLAN OVERALL OPERATION

SCIENCE	MATH — NUMBER SYSTEMS
<p>Decision Making Exhibit capacity to: ascertain personal qualities, foster trust, accurately reflect plant environments and job expectations (2) Maintain capacity to: foster confidentiality, cooperation, integrity, and to cope with conflict behavior (3) Maintain capacity to function effectively when encountering fast changing personal or situational variables (4) Exhibit qualities of self-confidence, self-control, self-reliance and adaptability Distribute personnel with regard to leadership qualities and experiences for optimum performance Exhibit capacity to ascertain best service for the particular party type requested Grant appropriate regard for customer's unique needs Maintain regard for differing views on maximum efficiency in achieving objectives Grant conscious attention to smoothly flowing teamwork Capacity to perceive, quickly integrate, and function well in the face of unexpected situational variables, maintain openmindedness and composed in far seemingly different, clashing values (verbal, behavior)</p>	<p>Positive rationals Use of Numbers (without calculation) Counting, indexing Fundamental Operations (Calculation) Addition, subtraction, multiplication, division algorithms Basic Arithmetic Skills and Concepts Finding a percent of a number and what percent one number is of another, Ratio and proportion, Guess and check method Measurement: non-geometric Money (Representative sampling) Basic Statistical Skills and Concepts Representative sampling from population, Measurement of central tendency via mean (average), median, standard deviation, Techniques of statistical analysis and statistical inference Basic Logic Deductive or Inductive</p>
COMMUNICATIONS	
PERFORMANCE MODES	EXAMPLES
Speaking	Conferences, meetings, oral reports, written report
Reading	Conferences, meetings, oral reports, written report
Writing	Conferences, meetings, oral reports, written report
Listening	Conferences, meetings, oral reports, written report
Viewing	Conferences, meetings, oral reports, written report
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<p>SKILLS/CONCEPTS Terminology, Diction, Clarity of expression, Enunciation, Persuasion, Denotation/Connotation, Usage, Logic, Gestures, Dress, Poise Comprehension, Detail/Inference, Informational reports, Recommendation reports, Proposals Classification, Spelling and Penmanship, Informational reports, Recommendation reports, Business letters Comprehension, Discriminate facts from non-facts, Note taking Visual analysis, Memory, Describing</p>	

(TASK STATEMENT) ORGANIZE PRODEDURES

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY HAZARD
<p>Paper Pencil Profit and loss statement</p>	<p>Define authority and responsibility (get work done through others) Provide a system of controls Develop procedures for carrying out daily business and special problems Provide a continuing training and educating program for each level of employee</p>	
<p><u>DECISIONS</u></p> <p>Determine organizational setup Determine how much control is necessary Determine variance allowance Determine nature of unexpected problems Determine value of training new employees Determine value of continuous training of old employees</p>	<p><u>CUES</u></p> <p>Size and/or volume of business How essential the task Effects of bad performance on objectives How smoothly things run without top supervision Changes in methods Things become routine Performance failure Objectives falling short Low repeat business Dissatisfied employees</p>	<p><u>ERRORS</u></p> <p>Give responsibility without authority Slipshod supervision — loose control No thinking ahead — "status quo" syndrome No indoctrination No clear goals or steps Poor employee relations Praise Achievement awards Older employees know-it-all, or cannot be upgraded now</p>

TASK STATEMENT) ORGANIZE PROCEDURES

SCIENCE		MATH -- NUMBER SYSTEMS	
Exhibit capacity to ascertain personal qualities, Exhibit capacity to foster trust; Maintain capacity to foster trust, confidence, cooperation, integrity and to cope with conflict behavior; Exhibit qualities of self-confidence, self-control, self-reliance, self-respect and adaptability; Distribute personnel with regards to leadership qualities and experiences for optimum team performance; Grant conscious effort to smoothly flowing teamwork; Maintain regard for differing views on maximum efficiency of the operations; Grant appropriate regards for customer's unique needs; Communicate pride in establishment; Exhibit capacity to ascertain best service for the particular party type requested	Positive rationals Use of Numbers (without calculation) Counting, indexing Fundamental Operations (Calculation) Addition, subtraction, multiplication, division algorithms Basic Arithmetic Skills and Concepts Finding a percent of a number and what percent one number is of another, Ratio and proportion, Guess and check method Measurement: non-geometric Money/Interest Basic Statistical Skills and Concepts Representative sampling from population, Measurement of central tendency via mean (average), median, standard deviation Basic Logic Deductive/Inductive		
COMMUNICATIONS			
PERFORMANCE MODES	EXAMPLES	SKILLS/CONCEPTS	
Speaking	All levels	Terminology, Diction, Implying, Enunciation, Clarity of expression, Persuasion and sales technique, Denotation/Connotation, Logic, Gestures, Dress, Facial and body features, Poise, Usage	
Reading	Interpreting market surveys	Comprehension, Detail/Inference, Terminology, Informational reports, Recommendation report, Proposals	
Writing	Preparing advanced materials	Description, Business letters, Diction, Clarity of expression, Informational reports, Recommendation reports, Classification	
Listening	Interpreting verbal marketing information and customer needs and wants	Discriminate facts from non-facts, Recognize opinions, Concentration, Logic, Definition	

(TASK STATEMENT) DIRECT OPERATION

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Paper Pencil Profit and loss statement</p>	<p>Supervise employees Hiring, training, employee relations, job duties and responsibilities (analysis) Control systems -- procedures for insuring that procedures are being carried out as prescribed Bookkeeping, records, personal observation, employee ratings Coordinate departments or area to insure a smooth running, efficient operation of the whole (example: order department, head baker, sales promotion) Evaluate procedures -- check to see that objectives are being reached</p>	
<p><u>DECISIONS</u></p> <p>Determine what is necessary to obtain and keep good employees Determine how efficient and which control systems Determine when coordinating effort is necessary Determine if objectives are being reached Determine if business is growing and healthy: if not, determine what must be done -- new product, improved service or product, increase types and scope of product, merchandise create market</p>	<p><u>CUES</u></p> <p>Turnover No efficient record system, low quality product, high food costs, high labor costs, customer dissatisfaction How large operation Profit and loss statement, operations statement, customer surveys, employee suggestion box</p>	<p><u>ERRORS</u></p> <p>No job descriptions, no indoctrination, no sense of belonging Subjective evaluation, non-factual, lack of written forms No adjustment of policies, no room for growth, diminishing demand for product or service, lack of controls, inefficient evaluation</p>

TASK STATEMENT DIRECT OPERATION

TASK STATEMENT)		DIRECT OPERATION	
SCIENCE		MATH – NUMBER SYSTEMS	
Exhibit capacity to ascertain personal qualities (skills, knowledge, character, flexibility, learning capacity); Exhibit capacity to foster trust; Maintain capacity to foster trust, cooperation, integrity and to cope with conflict behavior; Maintain capacity to function effectively, when encountering fast changing, multiple, personal or situational variables; Distribute personnel with regard to leadership qualities and experiences for optimum team performance; Communicate pride in establishment, Show and describe facilities with appropriate speed and clarity; Grant appropriate regards for customer's unique needs; Capacity to perceive, quickly integrate and function well in the face of unexpected situational variables		Positive rationals Use of Numbers (without calculation) Counting, Coordinate system, Ordering, Indexing, Coding Fundamental Operations (Calculation) Addition, subtraction, multiplication, division algorithms Basic Arithmetic Skills and Concepts Finding a percent of a number and what percent one number is of another, Ratio and proportion, Reduction of fractions Read and interpret tables, charts and graphs Maps Basic Logic Deductive/Inductive, Test for validity, Proof: indirect Basic Probability Skills and Concepts Determine probability of sample events Basic Statistical Skills and Concepts Survey market, representative sampling from population, Measurement of central tendency, Techniques of statistical analysis/inference	
COMMUNICATIONS			
PERFORMANCE MODES		EXAMPLES	SKILLS/CONCEPTS
Speaking		All levels	Terminology, Diction, Implying, Enunciation, Clarity of expression, Persuasion and sales technique, Denotation/Connotation, Logic, Gestures, Dress, Facial and body features, Poise, Usage
Reading		Interpreting market surveys	Comprehension, Detail/Inference, Terminology, Informational reports, Recommendation report, Proposals
Writing		Preparing advanced materials	Description, Business letters, Diction, Clarity of expression, Informational reports, Recommendation reports, Classification
Listening		Interpreting verbal marketing information and customer needs and wants	Discriminate facts from non-facts, Recognize opinions, Concentration, Logic, Definition

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Duty G

Developing Accounting and Bookkeeping Skills

- 1 Calculate ingredient cost and selling price
- 2 Control labor costs
- 3 Calculate accounts receivable and payable

(TASK STATEMENT) CALCULATE INGREDIENT COST AND SELLING PRICE

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY HAZARD
<p>Paper Pencil Calculator</p>	<p>Determine bowl cost and five percent for miscellaneous Determine yield Determine portion cost Determine selling price Cut out waste: raw ingredients, finished products, spillage, improper cooking, bowl clean out</p>	
<p><u>DECISIONS</u> Determine size of portion Determine percent mark up needed</p>	<p><u>CUES</u> Volume of business Type of customer Overhead Not realizing yield volume Rise in food cost. Clean utensils and pots and pans</p>	<p><u>ERRORS</u> Not keeping record of current prices Negligent bowl cost determination Lack of portion control Improper scaling Overruns Spillage Improper bowl cleanout Waste (unfit products) Wrong ingredients Burned products or underdone</p>

TASK STATEMENT) CALCULATE INGREDIENT COST AND SELLING PRICE

TASK STATEMENT) CALCULATE INGREDIENT COST AND SELLING PRICE	
SCIENCE	MATH — NUMBER SYSTEMS
Increase of volume due to rising (expansion of trapped gases) Action of formed trapped gases Effects of heat upon volume	Positive rationals Use of Numbers (without calculation) Counting, coding, indexing, ratio Fundamental Operations (Calculation) Addition, subtraction, multiplication, division algorithms Measurement: non-geometric Weight, liquid dry Basic Arithmetic Skills and Concepts Reduction of fractions, Finding a percent of a number and what percent one number is of another, Ratio and proportion/Estimation, Rounding of decimals and whole numbers
COMMUNICATIONS	
<u>PERFORMANCE MODES</u> Speaking Reading Writing Listening	<u>EXAMPLES</u> Discussion of cost and prices Instructions, substitutes, new formulae, determining new cost Precise formulae and accompanying bowl cost, yield and selling price Recognize verbal reports or opinions prior to writing 59
	<u>SKILLS/CONCEPTS</u> Terminology, Clarity of expression, Logic Comprehension, Detail/Inference, Informational reports, New formulae proposals Selling, Classification, Description, Informational reports Concentration, Comprehension, Detail/Inference, Informational reports, New formulae proposals

(TASK STATEMENT) CONTROL LABOR COSTS

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
Pencil Paper Calculator	Simplify task Time -- motion study Closeness of materials Work simplification Plan work schedule: task to keep employees occupied while cooking process is going on so production efficiency of employees is high Plan efficient organization of tasks and scheduling	Prolonged standing or bending causes physical fatigue and lowered employee efficiency
<p><u>DECISIONS</u></p> <p>Determine how task can be done more efficiently Determine length of preparation time and cooking time of each task Determine how to utilize employees most efficiently</p>	<p><u>CUES</u></p> <p>High labor cost percentage Employees standing around Physical strain on employee</p>	<p><u>ERRORS</u></p> <p>Improper scheduling Improper work areas: height, noise, light, standing, stooping Supplies not nearby Supplies not available Physical tiring conditions</p>

TASK STATEMENT) CONTROL LABOR COSTS

SCIENCE	MATH — NUMBER SYSTEMS
<p>Conscious awareness of the need for a balance between tension and relaxation</p> <p>Conscious awareness of physical expressions to peak physical performance (work simplification study)</p> <p>Optimum positions and range of humans musculature for most efficient performance</p>	<p>Positive rationals</p> <p>Use of Numbers (without calculation)</p> <p>Counting, coordinate system</p> <p>Fundamental Operations (Calculation)</p> <p>Addition, subtraction, multiplication, division algorithms</p> <p>Measurement: non-geometric</p> <p>Time [Time motion study], speed</p> <p>Use of variables in formulae</p> <p>Basic Arithmetic Skills and Concepts</p> <p>Finding a percentage of a number and what percent a number is of another, Ratio and proportion</p> <p>[Efficiency ratios and proportions]</p>
COMMUNICATIONS	
PERFORMANCE MODES	EXAMPLES
<p>Writing</p> <p>Speaking</p> <p>Reading</p> <p>Listening</p>	<p>Work schedule, motion studies, instructions</p> <p>Explaining, new work methods, instructions</p> <p>Work studies and schedules, instructions</p> <p>Verbal proposals</p>
<p><u>SKILLS/CONCEPTS</u></p> <p>Classification, Description, Reports: Informational, Terminology, Denotation/Connotation</p> <p>Clarity of expression, Logic, Poise</p> <p>Comprehension, Detail/Inference, Recommendation reports</p> <p>Recognize opinions</p>	
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(TASK STATEMENT) CALCULATE ACCOUNTS RECEIVABLE AND PAYABLE

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Bills (duplicates) Statements Receipts Check</p>	<p>Calculate accounts payable Purveyors — C.O.D. — weekly — monthly Utilities — monthly Rent or mortgage — monthly Calculate accounts received Unpaid customer obligations Rebates — discounts Reconcile accounts Check stubs, paid bills, unpaid bills, and cash sales</p>	
<p><u>DECISIONS</u> Determine method of payment Frequency — check or cash — receipts Determine automatic deduction from checking account Determine method of billing and collection Determine method of entering into books Determine method of balancing out accounts</p>	<p><u>CUES</u> Filing systems Bookkeeping methods</p>	<p><u>ERRORS</u> Lost receipts Not marking paid bills Lost bills Not obtaining receipts on cash payments</p>

TASK STATEMENT) CALCULATE ACCOUNTS RECEIVABLE AND PAYABLE

SCIENCE		MATH — NUMBER SYSTEMS
		Positive rationals Use of Numbers (without calculation) Counting, coordinating system, indexing, coding Fundamental Operations (Calculation) Addition, subtraction, multiplication, division algorithms Basic Arithmetic Skills and Concepts Reduction of fractions, Finding a percent of a number and what percent one number is of another, Rounding off decimals and whole numbers
COMMUNICATIONS		
PERFORMANCE MODES	EXAMPLES	SKILLS/CONCEPTS
Speaking Writing Listening Reading	About an account Preparing bill, statements, checks, receipts About an account About an account or a bill of lading	Diction, Enunciation, Clarity of expression, Persuasion, Logic, Poise Classification, Description, Business letters Concentration, Logic, Comprehension, Detail/ Inference, Informational reports, Terminology Concentration, Logic, Comprehension, Detail/ Inference, Informational reports, Terminology

Duty H

Operating Store

- 1 Operate cash register
- 2 Serve customer

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(TASK STATEMENT) OPERATE CASH REGISTER

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY HAZARD
<p>Cash register Electric outlet Receipts (optional) Bill (optional)</p>	<p>Find total amount due Manual Machine Receive money from customer : place on register ledge Make change -- to five cents -- to nearest quarter-- to dollar Hand change to customer with smile and thank you</p>	<p>Catch fingers in drawer Impale hand on spike Punctures Mangled or brot ingers</p>
<p><u>DECISIONS</u> Determine how to derive amount owed Determine how to arrive at change due Determine when to put money in till Determine how to ring up sales (coded key)</p>	<p><u>CUES</u> Number of items Amount involved Percentage of customers in given time Code system: pre-set register, key control</p>	<p><u>ERRORS</u> Placing money in till before transaction is completed Impersonal attitude toward customer Incorrect ring Incorrect change making</p>

TASK STATEMENT) OPERATE CASH REGISTER

SCIENCE	MATH - NUMBER SYSTEMS
<p>Psychology of selling Making a guest feel important Principles of courtesy</p>	<p>Positive rationals Use of Numbers (without calculation) Counting and coding Fundamental Operations (Calculation) Addition, subtraction, multiplication, division algorithms Basic Arithmetic Skills and Concepts Reduction of fractions, Rounding off decimals and whole numbers</p>
<p>COMMUNICATIONS</p>	
<p><u>PERFORMANCE MODES</u> Speaking Listening Touching</p>	<p><u>EXAMPLES</u> Selling, money given Verbal orders Coins, condition of merchandise</p> <p>67</p> <p><u>SKILLS/CONCEPTS</u> Concentration, Persuasion and sales technique Concentration, Terminology Size and determination</p>

(TASK STATEMENT) SERVE CUSTOMER

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY - HAZARD
<p>Tongs Tissue Bags Boxes Smile String Tape Telephone Pencil Paper</p>	<p>Give proper greeting: courtesy — public relations Display knowledge of products and terminology Concentrate on number and type (telephone) Reback order to customer (telephone) Fill order courteously (person) Do not touch products with hands (tissues) Thank customer with smile Invite return business</p>	<p>Food contamination by improper storage or handling Paper cuts</p>
<p><u>DECISIONS</u></p> <p>Determine how long customer can wait Determine exactly what a customer wants Determine at what point a customer is unreasonable Determine a customer rotation system Determine customer satisfaction — wholesale, retail</p>	<p><u>CUES</u></p> <p>Dissatisfied customer: grumpy, curt Is customer a "good" customer Equal treatment whether order by phone or in person</p>	<p><u>ERRORS</u></p> <p>Lack of friendliness Letting a customer feel neglected Lack of knowledge of products and terminology Failure to reback phone orders Handling product with hands Improper food handling techniques</p>

TASK STATEMENT) SERVE CUSTOMER

SCIENCE	MATH - NUMBER SYSTEMS
<p>Psychology of selling Making customer feel important Impulse buying Suggestive selling</p>	<p>Positive rationals Use of Numbers (without calculation) Counting, coding, ordering Fundamental Operations (Calculation) Addition, subtraction, multiplication, division algorithms Measurement: non-geometric Weight [Weigh cookies]</p>
COMMUNICATIONS	
<p><u>PERFORMANCE MODES</u></p> <p>Speaking Listening Viewing</p>	<p><u>EXAMPLES</u></p> <p>Read back, customer Phone or personal order Lb., dozen, M</p> <p>69</p> <p><u>SKILLS/CONCEPTS</u></p> <p>Terminology, Persuasion and sales technique, Dress, Facial and body features, Poise, Logic Auditory discrimination, Verbal order(s), Logic Recognition of abbreviations, symbols, codes</p>

Duty I

Observing Safety Rules and Regulations

- 1 Safety principles and laws in layout design
- 2 Obey safety procedures for installing and operating equipment

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(TASK STATEMENT) SAFETY PRINCIPLES AND LAWS IN LAYOUT DESIGN

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON:	PERFORMANCE KNOWLEDGE	SAFETY - HAZARD
<p>Check list: copy of federal, state, and local ordinances pertaining to bakery set up and operation</p>	<p>Door open outward, and recessed Handrails, signs, and lights at all steps Mark all exits and fire alarm systems Lighting standards: aisle space Ventilation — hood and exhaust fans Non-flammable materials Fire extinguishers and automatic sprinkling system Equipment — moveable installation Floor — tile, sloped, with drain Wall — easily cleaned (tile or epoxy) Sewer trap — grease Separate restroom facilities</p>	<p>Poor lighting in work areas Crowded aisle Grease build-up Fire Unserviced fire extinguisher and systems Unsafe connection Slippery or cluttered floor areas Easily cleaned walls, and ceilings (grease build-up) Fire — electric shock, gas inhalation, falls, slips, burns, scalding, temperature build-up, grease fire</p>
<p><u>DECISIONS</u></p> <p>Amount of lighting Proper ventilation Materials used in kitchen Extinguishers and hood system Floor construction</p>	<p><u>CUES</u></p> <p>Controlled by state, federal, and local laws and building code Projected volume</p>	<p><u>ERRORS</u></p> <p>Not getting plans okayed by local department of health, fire department, local building inspectors, and the department of agriculture Inadequate space for necessary equipment Lack of sewer trap — inadequate sewer lines Inadequate electrical power Not allowing for expansion — overcrowding</p>

TASK STATEMENT) SAFETY PRINCIPLES AND LAWS IN LAYOUT AND DESIGN

SCIENCE		MATH - NUMBER SYSTEMS
Light - candles unit Effects of exhaust fan on air movement, temperature and grease build-up Effects of different chemicals on different types of fires Peculiar properties of grease build-up		Positive rationals Use of Numbers (without calculation) Counting, coordinate, ordering, indexing Fundamental Operations (Calculation) Addition, subtraction, multiplication, division algorithms Measurement: non-geometric Weight Use of variables in formulae Basic Arithmetic Skills and Concepts Reduction of fractions, Finding a percent of a number and what percent one number is of another Area relationships
COMMUNICATIONS		
<u>PERFORMANCE MODES</u> Speaking Reading Writing Listening	<u>EXAMPLES</u> Discussion with various experts and officials in layout and design Rules, laws, regulations, proposals, information sources Instructions, notes, set-up layout Oral communication on above subjects	<u>SKILLS/CONCEPTS</u> Terminology, Diction, Implying, Enunciation, Clarity of expression, Denotation/Connotation, Logic Comprehension, Detail/Inference, Informational reports, recommendation reports, Proposals, Definition, Instructions Classification reports Comprehension, concentration, Logic, Note taking

(TASK STATEMENT) OBEY SAFETY PROCEDURES FOR INSTALLING AND OPERATING EQUIPMENT

TOOLS, EQUIPMENT, MATERIALS, OBJECTS ACTED UPON	PERFORMANCE KNOWLEDGE	SAFETY -- HAZARD
<p>Copy of federal, state, and local ordinances pertaining to equipment standards and installation</p> <p>Copy of manufacturer's instructions and operating procedures</p>	<p>Choose moveable whenever possible</p> <p>Install flexible pipe attachments</p> <p>Place small equipment on stainless steel stands</p> <p>Vent equipment</p> <p>Ground equipment</p> <p>Adjust aisle space</p> <p>Follow manufacturer's instructions and safety precautions</p> <p>Use all safety parts and mechanisms and guards</p> <p>Periodically check wiring and gas connections</p> <p>Use equipment only for intended uses</p>	<p>Sharp blades and cutters</p> <p>Unserviced extinguishers and disconnected systems</p> <p>Carelessness</p> <p>Disregarding instructions or safety precautions</p> <p>Not replacing safe guards on merchandise</p> <p>Not keeping equipment in good repair: bare wiring, gas leaks, water leaks, grease build-up, insufficient hood and exhaust system</p> <p>Crowded</p> <p>Using hands on mechanical feed machines</p> <p>Wet hands, or standing in water and using electric equipment</p>
<p><u>DECISIONS</u></p> <p>Determine whether equipment is moveable or not</p> <p>Determine if adequately hooded</p> <p>Determine if grouping of equipment is as to minimize size of hood or more than one fan</p> <p>Determine what is safe operation</p> <p>Determine what can safely be used for purpose other than intended</p> <p>Determine a check system for wires and connections (gas -- electric)</p>	<p><u>CUES</u></p> <p>Size and weight</p> <p>Dissipation of odors, smoke and heat</p> <p>Manufacturer's instructions</p> <p>Water present</p> <p>Gaseous smell</p> <p>Bare wiring</p>	<p><u>ERRORS</u></p> <p>Non-moveable equipment</p> <p>Rigid attachments</p> <p>Ungrounded electrical equipment</p> <p>Unvented cooking equipment</p> <p>Not enough aisle space</p> <p>Not following instructions</p> <p>Removing safety features</p>

(TASK STATEMENT) OBEY SAFETY PROCEDURES FOR INSTALLING AND OPERATING EQUIPMENT

SCIENCE	MATH -- NUMBER SYSTEMS
<p>Characteristics of commercial gas (inflammable, odor)</p> <p>Characteristics of electricity in regards to water</p> <p>Basic electrical knowledge (bare wires, fuses), grounding, resets, 3 phase - 110 - 220</p> <p>Effects of rapid air movement on temperature and grease build-up</p> <p>Effects of water on hot grease</p>	<p>Positive rationals</p> <p>Fundamental Operations (Calculation)</p> <p>Addition, subtraction, multiplication, division algorithms</p> <p>Use of Numbers (without calculation)</p> <p>Counting</p> <p>Measurement: non-geometric</p> <p>Weight, liquid, dry, speed, temperature</p> <p>Basic Arithmetic Skills and Concepts</p> <p>Ratio and proportion, Knowledge of symmetry</p>
COMMUNICATIONS	
<p><u>PERFORMANCE MODES</u></p> <p>Speaking</p> <p>Reading</p> <p>Writing</p> <p>Listening</p> <p>Viewing</p> <p>Smelling</p>	<p><u>EXAMPLES</u></p> <p>Oral instructions, reports on installation and operation of equipment</p> <p>Rules, laws, regulations, informational sources, proposals</p> <p>Instructions, notes, set-up equipment</p> <p>Oral information, whether machine is operating satisfactorily</p> <p>Place of equipment in total</p> <p>Kitchen, motor - heat product</p> <p>75</p> <p><u>SKILLS/CONCEPTS</u></p> <p>Terminology, Implying, Clarity of expression, Denotation/Connotation, Logic</p> <p>Comprehension, Detail/Inference, Information reports, Recommendation reports</p> <p>Definition, Instructions, Classification reports</p> <p>Comprehension, Concentration, Logic, Note taking, Noise discrimination</p> <p>Visual analysis, Describing</p> <p>Working properly</p> <p>77</p>

APPENDIX
SAFETY-HAZARD

SAFETY:

Lift heavy weights properly
Unplug equipment to clean
Use hot pads to handle pans and equipment
Clean floor immediately
Keep working area clean and uncluttered
Keep sharp objects in proper places
Be sure all safety equipment is in place
Dry hands before using equipment
Maintain proper fire extinguishers at proper areas
Observe all safety rules in operating equipment

HAZARD:

Gas leaks
Fire
Hot ovens and pans and equipment
Heavy lifting
Open flame
Spills and slips
High humidity and heat
Live steam
Sharp knives, blades, edges
Electrically operated machines
Hands and fingers—in mixers, grinders, slicers

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GLOSSARY

- Adding - The process of increasing
- Bacteria - Numerous microscopic organisms, various species which are concerned in fermentation and spoilage
- Bag out - To press product out of a conical canvas or plastic bag into the desired shapes and forms and onto baking pans
- Bake - To cook by dry heat in a closed place, as an oven
- Bakery - Baker's shop or place where goods are made and/or sold
- Bowl cost - Cost of ingredients in a specific formula
- Bran - Skin or outer covering of the wheat berry; removed during milling
- Bleeding - Term applied to dough that has been cut and left unsealed thus permitting the escape of air and gas
- Blend - A mixture of two or more flavorings or grades of flour
- Durum - A type of hard wheat flour used in making of macaroni products
- Emulsify - To combine ingredients such as water and fat
- Enrobe - Completely cover (top and sides) a baked product with icing or frosting
- Fermentation - A chemical reaction of the ingredients causing the forming of a gas (CO_2) which causes dough to expand
- Formula - In baking, a recipe giving ingredients, amounts to be used, and method of combining them
- Gluten - A protein that turns into a rubbery elastic substance when water is added to flour; it is this substance that holds the gas within
- Graham - Coarse whole wheat flour
- Invert sugar - A simple sugar; combination of dextrose and levulose
- Leavening - Raising or lightening by air-steam or gas (CO_2)
- Molding (Moulding) - The act of forming a loaf of bread
- Proof - The last stage of fermentation which allows the dough to raise under controlled heat and humidity (proof box)
- Portion - Size or weight of a unit or serving

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Pumpernickle - Coarse rye flour

Punch - Looping dough over itself after reaching the proper fermentation, forcing the gas out of the dough

Retarder - Refrigerator

Rye - Type of grain that produces a flour with a distinctive taste but no gluten and must be blended with wheat to make a bread

Strong wheat flour (hard) - Used in baking bread-rolls and special yeast products

Soft wheat flour - Used in baking more delicate products such as cakes, pastries and cookies

Scaling - Portioning by weight or volume

Texture - Interior grain of a product; the feeling of a substance under the fingers

Whip - Aerate by beating to a froth

Whole wheat - Flour made from whole berry

Work (knead) - Knead into a mass or develop dough by added mixing

Yield - The number of finished portions derived from raw ingredients